

## **REMARKS**

Upon entry of this amendment, claims 1, 4-12, 23-25, 27-30 and 33-34 will be pending in the instant application. Claims 2-3, 13-22, 26 and 31-32 have been cancelled without prejudice or disclaimer. Applicant reserves the right to pursue the withdrawn and/or cancelled subject matter in one or more continuing applications. Claims 1, 11 and 33-34 have been amended. Support for the claim amendments presented herein is found throughout the specification and in the claims as originally filed. For example, support for the amendments to claims 1 and 11 is found at least in Tables 4-5, in Example 4 and in paragraphs [0093] and [0094] of US Patent Application Publication No. 2005/0084449A1 the ‘449 publication. In addition, claims 33 and 34 have been amended solely to maintain antecedent basis and/or claim dependency throughout the amended claim set. Accordingly, the present amendments are fully supported by the original disclosure, and no new matter has been added.

### **Claim Rejections Under 35 U.S.C. § 102**

Claims 1, 4-10 and 12 have been rejected under 35 U.S.C. § 102(e), as being anticipated by US Patent Publication No. 2003/0124114 by McIntire et al. (“McIntire”).

McIntire does not teach or suggest the sequences recited by independent claims 1 and 11 as amended herein. Accordingly, the amended claims presented herein are novel over this reference. As such, this rejection should be withdrawn.

### **Claim Rejections Under 35 U.S.C. § 103**

Claims 1, 4-10, 12 and 23-30 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over the McIntire reference in view of US Patent Application Publication No. 2004/0124114A1 by Watkins et al. (“Watkins”).

Applicant traverses the rejection as applied to the amended claims presented herein. As described above, claim 1 has been amended to recite anti-TIM-1 antibodies or antigen-binding fragments thereof that specifically bind an epitope of human TIM-1 that includes the amino acid sequence of SEQ ID NO: 87 and contain one of the sets of recited heavy chain and light chain CDR combinations. In addition, amended independent claim 11 is directed to antibodies that

contain specific variable heavy chain and variable light chain combinations as disclosed in Tables 4-5 of the specification as originally filed.

The antibodies of the claimed invention bind human TIM-1 and modulate one or more biological activities of TIM-1 as shown throughout the specification, e.g., in Examples 8-10, 12 and 16-18. In contrast, the McIntire and Watkins references, alone or in combination, fail to describe or suggest antibodies that (i) bind a specific epitope of human TIM-1, (ii) contain the claimed CDR and/or variable heavy and light chain regions; and (iii) are able to modulate a biological activity of TIM-1.

The only specific anti-TIM-1 antibodies described in the McIntire reference were generated using murine TIM-1 antigen, and these antibodies are murine anti-TIM-1 antibodies. (See e.g., Examples 4-5 of McIntire). Moreover, this reference does not describe any antibodies that bind an epitope that includes the specific amino acid sequence PMPLPRQNHEPVAT. As described above, the claimed epitope sequence (SEQ ID NO: 87) is presented in McIntire only within the context of a full-length TIM-1 polypeptide. There is no teaching or suggestion that would lead the skilled artisan to identify any particular portion of the TIM-1 polypeptide sequence disclosed in McIntire as more (or less) important for antibody-binding. Thus, the skilled artisan would not be motivated by the teachings of the McIntire reference to produce antibodies that bind any particular sequence within the TIM-1 antigen, let alone antibodies that bind that the specific epitope sequence recited by amended claim 1 and contain the CDR combinations recited by amended claim 1 or the heavy and light chain variable regions recited by amended claim 11.

The addition of the Watkins reference fails to cure the deficiencies in the teachings of McIntire, as Watkins does not teach or suggest the human TIM-1 epitope and/or the specific antibody sequences recited by the amended claims. Watkins describes various methods of producing antibodies having optimized heteromeric variable regions, but does not describe any antibodies that bind TIM-1. Thus, there is no teaching or suggestion in Watkins that would clearly lead the skilled artisan to produce any antibodies that bind human TIM-1, let alone antibodies that bind human TIM-1 and modulate at least one biological activity of TIM-1 and have the specific the CDR combinations recited by amended claim 1 or the heavy and light chain variable regions recited by amended claim 11.

There is no objective reason provided by the McIntire and/or Watkins references that would lead the skilled artisan to combine and modify these references to arrive at the claimed invention, nor is there any evidence that the resultant combination and modification of these references would have been predictable. These references, alone or in combination, fail to provide the skilled artisan with a reasonable expectation that antibodies that possess the claimed characteristics would successfully bind human TIM-1 and modulate one or more biological activities of this target.

Accordingly, any suggestion that it would have been obvious to arrive at the claimed antibodies is an improper application of hindsight based on Applicant's disclosure in the instant application. Applicant submits, therefore, that the Examiner has failed to establish a *prima facie* case of obviousness and request that this rejection be withdrawn.

### **Claim Rejections Under 35 U.S.C. § 112**

Claims 2, 11, 33 and 34 have been rejected under 35 U.S.C. § 112, first paragraph for lack of written description and enablement.

Applicant submits that the amended claims presented herein are adequately described throughout the specification in sufficient detail to reasonably convey to the skilled artisan that the inventors had possession of the claimed office action at the time of filing. The antibodies recited by amended claims 1 and 11 (and their respective dependent claims) are described throughout the specification, e.g. in Tables 4-5 of the specification as originally filed. Moreover, Applicant submits that the skilled artisan would be able to practice the claimed invention commensurate with the scope of the amended claims without undue experimentation. Accordingly, withdrawal of all rejections under 35 U.S.C. § 112, first paragraph is requested.

## **CONCLUSION**

On the basis of the foregoing amendments, Applicant respectfully submits that the pending claims are in condition for allowance. If there are any questions regarding these amendments and remarks, the Examiner is encouraged to contact the undersigned at the telephone number provided below.

Respectfully submitted,

/Jennifer A. Karnakis/

Ivor R. Elrifi, Reg. No. 39,529  
Jennifer A. Karnakis, Reg. No. 53,097  
Attorneys for Applicant  
c/o MINTZ, LEVIN  
One Financial Center  
Boston, MA 02111  
Telephone (617) 542 6000  
Fax (617) 542 2241  
Customer No. **55111**